P/O A70814

INSTRUMENT SHOP

BIRD

INSTRUCTION book

BA-88

Instruction Book

for

Model BA-88

BLOWER ASSEMBLY

Bird Electronic Corporation
30303 Aurora Road
Cleveland (Solon), Ohio 44139

BA-88/674 Rev. 180

SUMMARY SPECIFICATIONS

FOR

MODEL BA-88 BLOWER ASSEMBLY

Power Supply.	115 Vac, 50-60 Hz, or 230 Vac, 50-60, (400 Hz special)
Supply Current	115V, .6A Max. 230V, .3A Max.
Blower Capacity (optimum)	540 CFM - Free Delivery Approx. 50 W Input
Dimensions.	22-1/4" l x 7-3/4" w x 15-5/8" h (installed) (565 x 197 x 397 mm)
Weight.	18 lbs. Net (8.2 kg)
Color	Navy Gray Enamel (MIL-E-15090)

Blower Assemblies (for air cooled Load Resistors)
Models BA-88-115 (for 115 VAC 50/60 Hz)
BA-88-230 (for 230 VAC 50/60 Hz)

General

This unit is provided to supply forced air cooling to certain Bird Electronic power dissipation equipments using the 245 Type radiator shell. Such models comprise Load Resistors in the 8890 Series (Termaline®) and the high power Attenuator Model 8329 (Tenuline®). These units may be attached to the BA-88 Blower Assembly. Forced air cooling doubles the rated capacity of the 8890 series Loads from 2500 watts to 5000 watts and the Model 8329 Attenuator from 2000 watts to 4000 watts. With the blower turned off but still attached, the original ratings are cut in half.

Description

The BA-88 consists of two high efficiency feather fans, equipped with power cord and operating controls, mounted in a special base. It is fitted with upper side baffles which direct the air thru the radiator fins. The fans are protected on the bottom and sides by a perforated sheet which permits air to enter freely. The controls consist of a line switch, fuse, and indicating lights showing "power on" or "fuse out".

INSTALLATION

The Blower Assembly is installed in essentially the same manner as the Series 8890 Loads or 8329 Attenuator. The base mounting dimensions are the same as those of the contained radiator; viz. (4) 3/8 x 15/32 slotted holes on a 21-1/4 x 5-3/8 rectangle. The BA-88 Blower therefore fastens directly to fittings previously used for Series 8890

Radiators. Note: Installing the blower raises overall height by 4-7/8 inches and the width by 1-3/8 (to 7-3/4). Use short length 5/16-18 cap screws (appropiate hardware is furnished - see below). The BA-88 Blower should be placed only with its base horizontal, to conform with that of the 8890 Load Resistor cooling system.

Free air access must be provided above and around (especially the sides) of the BA-88 when used on a table. The blower may also be mounted so that it is entirely open below - side clearance in this case will not be essential.

Installation where BA-88 is provided as a new accessory:

1. Detach load resistor from its existing installation.
2. Untie hardware bag from new blower unit and take out the (4) right angle retainer brackets (Item 9), and (8) insert nuts and machine screws (Items 15 and 16). Four sets of 5/16-18 fastenings for the radiator base are included.
3. Push all the insert nuts into the holes on the front and back faces of the radiator (just below and beyond the handles).
4. Take the four brackets (Item 9), and using a Phillips head screwdriver, attach a bracket to each corner with the free leg directed back from the radiator face.
5. Maintain the angles in good alignment with even clearance (about 1/16-inch beyond edge of face fin). Tighten all (8) Phillips head screws securely.

Special Note

On older model Bird radiators, the handles are mounted on the same holes mentioned above. In this case, except for the retainer bracket

extra hardware is not required. Remove the handles and re-attach with the brackets underneath, positioned in the same manner.

6. Lower the Radiator Unit carefully into the Blower Assembly.
   a. Place the units front and front; i.e., input connector facing the same direction as control panel.
   b. Before final seating of the radiator, check that the corners of the baffles are all inside the retaining brackets.
7. Line up base holes and fasten down radiator flanges with screws and nuts provided in accessory bag, Item 17.
8. Attach power cord receptacle to socket at rear of blower. Be careful to match prong polarities and guide receptacle hole on the center pin. Then push receptacle to bottom and twist clockwise slightly to lock.

OPERATION

Always start blowers before applying RF power to the load resistor. Push line switch on. "Blower On" glow indicates fans should be running; check air flow of both fans above radiator. Keep blowers going throughout operation of load resistor. When the equipment has been absorbing high power, generally above 1000 watts, allow blowers to run about 15 minutes after the power shutoff. This cools the input connector to safe temperatures for disconnections. Caution: Should the "power on" light go OFF the blowers will stop. Load power should be immediately turned off, or reduced to less than 1000 watts. Investigate cause in either case and correct; see Maintenance Section below.

Special Note

RF load ratings must be cut to 1kW (as stated) when the Blower Assembly is installed but is not running.

MAINTENANCE

1. This equipment requires only normal maintenance care. Avoid accumulation of dust, particularly on the fan or on inside surface of baffles. Keep the unit dusted off overall. Store under protected conditions when not in use. If the BA-88 Blower has been standing without an installed load unit, check for objects that may have entered blower openings.

2. In the event of possible fuse burn-out, check and correct cause before replacing fuse. Look for stuck or blocked fan rotors, or possibly a short circuit in the motor or in the blower wiring. To remove burned fuse, press knob in firmly, turn counterclockwise to stop, and pull fuse-holder out. Pull fuse straight out of the holder head and replace with 3AG-1/2A fuse (P/L Item 2) seating firmly in the socket. Reverse to replace.

3. The "Power On" Indicator Light (Item 4) is replaced from inside panel as follows:- Remove Base Guard as described in Par. 4, below. Unsolder leads to pilot light lugs, and unscrew hex retaining nut on inside of panel, pulling body out the front. Reverse to replace.

4. To gain access to the wiring and components of the power equipment, remove (4) #8-32 pan head screws from <u>each</u> face (front and back) of the base frame. These screws are placed diagonally across the face corners, and upon removal, the perforated guard may be pulled straight off the bottom.

PARTS LIST FOR MODEL BA-88

Item No.	Bird P/N	Description	Qty.	Model used with 115	230	Remarks
1	5-1069	Switch, Power	1	x	x	
2	5-721-2	Fuse	1	x	x	3AG - 1/2 A
3	5-547	Holder, Fuse	1	x	x	
4	5-860	Light, Pilot	1	x	x	
5	5-097-8	Resistor, Dropping	1		x	
6	8950-026-7	Resistor, Dropping	1	x		
7	5-381	Fan, Feather	2		x	Earlier units have 1 fan
7a	5-383	Fan, Feather	2	x		Earlier units have 1 fan
8	8950-014-1	Bracket, Retainer	4	x	x	Baffle
9	8950-023-1	Cable, Power	1	x		Standard
9a	8950-023-2	Cable, Power	1		x	Not used with condulet models
10	8950-010	Clamp, Fan	8	x	x	
11	8950-016-1	Guard, Base	1	x	x	
12	Std.	Screws, Fan Clamp	8	x	x	#8-32x3/8 Pan Hd. Mch.Scr.,Stls.Stl
13	5-833-1	Nut, Insertion	8	x	x	For Ret. Bracket(
14	Std.	Screws, Retainer	8	x	x	#10-32x3/8 Phill. Hd.Mch.Scr., S.S.
15	Std.	Fastening Set, Radiator Base Mtg.	4	x	x	5/16-18x1/2 Hex Hd. Cap Screws & Nuts, Stls. Stl.
16	5-748	Base, Midget	1	x	x	Power Plug

* Use with #8 internal tooth lockwashers.

QUALITY INSTRUMENTS FOR RF POWER MEASUREMENT

From 2 to 2300 MHz and from 25 milliwatts to 250 kilowatts in 50-ohm coaxial line systems.

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